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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/417,016	10/12/1999	SHIGEHIRO MASUJI	P63935US0	6885

7590 01/28/2003

JACOBSON PRICE HOLMAN & STERN
PROFESSIONAL LIMITED LIABILITY COMPANY
400 SEVENTH STREET N W
WASHINGTON, DC 20004

EXAMINER

NGUYEN, FRANCIS N

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 01/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/417,016

Applicant(s)

MASUJI ET AL.

Examiner

FRANCIS NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7,9-20,25 and 27-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-20 and 29-33 is/are allowed.
- 6) ☒ Claim(s) 7,9,25 and 27 is/are rejected.
- 7) ☒ Claim(s) 10 and 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. The amendment filed on 11/22/2002 is entered. Copies of front pages of priority documents and copy of stamped postcard are received; examiner acknowledges receipt of priority documents.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 7, 9, 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. (US Patent 6,069,609) .

As to claims 7 and 25, Ishida et al. teaches an apparatus for processing a video signal and associated method comprising :

a pattern generator (**dither pattern generator 13 shown in figure 10A**) to generate a plurality of dither pattern signals, carrying positional data indicating locations of dither coefficients, a coefficient generator to generate a dither coefficient signal carrying the dither coefficients arranged in a matrix (**2x2 dither matrices, column 20, lines 51-57**) for each gradation level of an input video signal (**28 ranges within 256-shade grayscale shown in figure 18**) in response to one of the pattern signal, and

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an adder (adder 12, figure 10A, column 10, line 50) to add the coefficient signal to the input video signal, thus outputting a video signal to be supplied to the display panel (PDP 21 shown in figure 11).

However, Ishida et al. fails to expressly teach weighting being applied to each dither coefficient, the lower the gradation level, and the larger the weighting. Note that Ishi et al. teaches dither value to deal with a shade that may easily flicker and lighting order of subframes (column 15, lines 36-39), that human eye senses flicker at low brightness levels , at high brightness levels, the subframes to be turned ON vary little (column 19, lines 7-10) . It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the apparatus of Ishi et al., then apply more weight for dithering to those ranges of low gradation levels than those ranges of high gradation levels to **reduce sensed flicker at low brightness levels**, as taught by Ishida et al. (column 19, lines 7-10) and to **produce a smooth display characteristic** without flatness or flicker, as taught by Ishida et al. (column 25, lines 1-5).

As to claims 9 and 27, the apparatus according to claim 7 and associated method further comprising a selector (selector 32/34 shown in figure 27, column 17, lines 20-22) to select the one pattern signal (one of inclinations Aa to Ad, column 17, lines 20-21) for each predetermined unit of picture carried by the video signal or according to locations of the pixels on the display panel.

Allowable Subject Matter

4. Claims 11-20, 29-33 are allowed.

5. Claims 10 and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

As to claim 11-12, none of prior art teaches an apparatus for processing a video signal comprising a detector to detect color gradation levels of an input video signal and an adder to add one of the coefficient signals to signal components at predetermined gradation levels of the input video signal.

As to claims 10 and 28, none of prior art teaches an adder wherein the adder adds the coefficient signal to the input video signal at gradation levels equal to or lower than a predetermined level.

As to claims 13-20, none of prior art teaches an apparatus for processing a video signal comprising an adjuster to adjust the dither coefficients carried by the output pattern signal so that the sum total of the dither coefficients carried by the output pattern signal is zero.

As to claims 29-33, none of prior art teaches a method of processing a video signal comprising the step of adjusting the dither coefficients carried by the output pattern signal so that the sum total of the dither coefficients carried by the output pattern signal is zero.

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Conclusion

7. The prior art made of record but not relied upon is pertinent to Applicant's disclosure

US Patent 6,008,794 Ishii

Reference Ishii is made of record as it discloses a flat panel display controller with dithering logic.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **FRANCIS N NGUYEN** whose telephone number is **703 308-**

8858. The examiner can normally be reached during hours 8:00 AM- 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **RICHARD A HJERPE** can be reached at 703 305-4579.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service whose telephone number is (703) 306-0377.

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A handwritten signature in black ink, appearing to read 'Francis N. Nguyen', written in a cursive style.

FN

January 23rd, 2003

FRANCIS N NGUYEN

Examiner

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